

IN THE CLAIMS:

Please replace the existing set of Claims with the following set, in which Independent Claim 26 has been amended.

1-25. (Canceled).

26. (Currently Amended). An optical connector for establishing a connection to a complementary mating connector ~~that has~~ having a complementary optical terminal element defining ~~an~~ a complementary optical axis, comprising:

a connector housing including a mating receptacle for ~~mating~~ establishing a connection with said complementary mating connector;

said mating receptacle including at least one integrally-formed sleeve, protruding from a side of said connector housing, forming a channel and a channel extension adjacent to one another along a stop surface for said complementary optical terminal element;

said channel and channel extension forming a channel axis to be coincident with said complementary optical axis of said complementary optical terminal element, when the same is mated with the optical connector;

said channel extension being formed with clamping elements, and at least one optical fiber section;

said at least one optical fiber section having a front end with a front optical contact surface and a rear end with a rear optical contact surface, said optical fiber section being affixed in said channel extension of said sleeve by means of said clamping elements, and being positioned to establish, with said front optical contact surface, an optical connection to said complementary optical element of said complementary connector;

wherein said clamping elements define a gradually narrowing opening in said channel extension, longitudinally spaced from said stop surface and arranged with a set-back relative to said front optical contact surface such that said front end of said at

least one optical fiber section extends beyond said gradually narrowing opening in said channel extension adjacent to said complementary optical terminal element of said complementary connector.

27. (Previously Amended). The connector according to Claim 26, wherein said stop surface forms a stop for said complementary optical terminal element of said complementary connector leaving a gap to said front optical contact surface of said optical fiber section.

28. (Previously Amended). The connector according to Claim 26, wherein said channel extension is a substantially cylindrical fiber channel having said clamping elements protruding radially inwardly into said channel at said narrowing opening.

29. (Previously Amended). The connector according to Claim 26, wherein said clamping elements are integrally formed with walls of said sleeve.

30. (Previously Presented). The connector according to Claim 26, wherein said clamping elements are formed to engage said optical fiber section in displacing and compressing some material of said optical fiber section.

31. (Previously Amended). The connector according to Claim 26, wherein said clamping elements each comprise a front face adjacent to said stop surface, each said front face of said clamping elements being longitudinally spaced from said stop surface towards said rear end of the optical fiber section.

32. (Previously Amended). The connector according to Claim 31, wherein each said front face of said clamping elements is offset relative to said stop surface by more than 30 μm and less than 5 mm.

33. (Previously Amended). The connector according to Claim 26, wherein said channel extension includes a front guide section having a first interior diameter and a rear insertion section having a second interior diameter, said second interior diameter being larger than said first interior diameter.

34. (Previously Presented). The connector according to Claim 33, wherein a chamfer is provided between said front guide section and said rear insertion section.

35. (Previously Amended). The connector according to Claim 26, wherein said sleeve, in the region of said channel extension, includes a rear insertion section and a front guide section having an interior diameter for guiding said fiber section front end that has an exterior diameter, said interior diameter of the front guide section being between 40 μm smaller and 120 μm larger than said exterior diameter of said optical fiber section.

36. (Previously Amended). The connector according to Claim 33, wherein said optical fiber section has a radial clearance of 40 μm to 100 μm in said rear insertion section of said fiber receiving sleeve.

37. (Previously Presented). The connector according to Claim 33, wherein said clamping elements are located in said insertion section.

38. (Previously Presented). The connector according to Claim 33, wherein said clamping elements are longitudinally spaced from said rear end of said front guide section in direction of said insertion section.

39. (Previously Amended). The connector according to Claim 26, wherein at least three clamping elements are arranged in said channel extension, evenly spaced around the circumference of said channel extension.

40. (Previously Presented). The connector according to Claim 39, wherein said clamping elements are formed as engaging lugs.

41. (Previously Presented). The connector according to Claim 40, wherein said engaging lugs have a substantially triangular cross section, seen in radial direction onto said optical fiber section.

42. (Previously Amended). The connector according to Claim 40, wherein said engaging lugs each has a ramp surface inclined to said rear end of said fiber section and a front face that extends substantially perpendicularly to said channel axis.

43. (Previously Amended). The connector according to Claim 42, wherein said engaging lugs each has a width in the range of 150 μm to 400 μm measured in circumference direction of said channel extension and a height of 50 μm to 200 μm measured in radial direction of said channel extension, each lug protruding radially inwardly of the channel extension.

44. (Previously Presented). The connector according to Claim 26, further comprising at least one electro-optical converter including an optical input/output, said converter being located at said rear end of said optical fiber section and said rear optical contact surface of said fiber section providing an optical connection between said fiber section and said converter.

45. (Previously Amended). The connector according to Claim 44, wherein said connector housing has a rear side and side surfaces, and said electro-optical converter is mounted by a bracket directly to said rear said of said connector housing.

46. (Previously Amended). The connector according to Claim 45, wherein said bracket is stamped from sheet metal, substantially U-shaped and interlocked on

said side surfaces of said connector housing, the bracket also being provided with soldering pins for connecting with a printed circuit board.

47. (Previously Presented). The connector according to Claim 45, wherein said bracket comprises at least one elastic spring section, pressing said converter onto said rear optical contact surface of said fiber section when assembled.

48. (Previously Presented) The connector according to Claim 47, wherein said bracket comprises a rear wall and an upper cover, integrally connected along a rear upper edge in one piece, said spring elastic section being attached to said upper cover and said spring elastic section having a substantially L-shaped cross section.

49. (Previously Amended). A method for manufacturing an optical connector for establishing a connection to a complementary mating connector that has a complementary optical terminal element, comprising the steps of:

- a) providing a connector housing with a mating receptacle for mating connection with a said complementary connector, wherein said receptacle has at least two sleeves forming each a channel and a channel extension, for mating connection with said complementary optical terminal elements of said complementary connector, and wherein each of said channel extensions has a front side and a rear side and includes a plurality of inner clamping elements that define a narrowing opening in said channel extension, said narrowing opening being longitudinally spaced from said front side of said channel extension;

- b) providing at least two optical fiber sections, each having a front end with a front optical contacting surface and a rear end with a rear optical contact surface;

- c) pressing said fiber sections directly into an associated one of said channel extensions thus fixing said fiber sections by means of said clamping elements in said channel extensions, such that said front end of said optical fiber section extends beyond said narrowing opening in said channel extension adjacent to said complementary optical terminal element of said complementary connector;

- d) positioning at least two electro-optical converters in said connector housing with each a converter at said rear side of each associated channel extension, whereby an optical connection between said fiber sections and said converters is established through rear optical contacting surfaces of said fiber sections; and
- e) affixing said converters to said connector housing.

50. (Previously Amended). The method according to Claim 49, wherein each said comprises a stop surface in the area between said channel and said channel extension, also comprising the step of:

pressing a mounting die against an associated one of said stop surfaces in each said sleeve, thus forming a front stop for the associated fiber section during step c).

INFORMATION DISCLOSURE STATEMENT

Pursuant to 37 CFR §§ 1.97 and 1.98, the references listed on the enclosed Information Disclosure Statement, Form PTO-1449, are submitted for consideration by the Examiner during examination of the Present Application.

The international patent references contained in this Information Disclosure Statement were submitted as part of a search conducted at the European Patent Office in a corresponding European Patent Application. Additionally, each of the international patent references has a corresponding United States Patent – those are additionally cited, and are intended to qualify as the English translation of the international patent references. Finally, the International Search Report from the underlying Patent Cooperation Treaty Application is cited in this Information Disclosure Statement.

This Information Disclosure Statement should be considered because it is submitted before the issuance of a Final Office Communication, pursuant to 37 CFR § 1.97(c), and is accompanied by the payment of the fee set forth in 37 CFR § 1.17(p). Applicant directs the payment of the appropriate fee from Deposit Account 501873.

In accordance with the Office's Official Gazette Notice (05 August 2003), waiving the requirement of filing U.S. Patent references, copies of such U.S. Patent and U.S. Published Patent Applications are not enclosed. Nevertheless, copies of non-U.S. references are enclosed. In accordance with 37 CFR § 1.104, no representation is made that a reference cited in the Information Disclosure Statement is "prior art" within the meaning of 35 USC §§ 102, 103, and Applicant reserves the right, pursuant to 37 CFR § 1.131 or otherwise, to establish that any such reference is not "prior art." Moreover, Applicant does not represent that a reference has been thoroughly reviewed or that any relevance of any portion of a reference is intended.

Consideration of the items listed in the Information Disclosure statement is respectfully requested. Pursuant to the provisions of MPEP 609, it is requested that the Examiner return a copy of the enclosed Form PTO-1449, marked as being considered, to the undersigned with the next Office Communication. The appropriate fee may be debited from Deposit Account No. 501873.

A. U.S. PATENTS AND U.S. PUBLISHED PATENT APPLICATIONS.

- U.S. Patent No. 5,993,071. Hultermans. 30 November 1999.
- U.S. Patent No. 6,186,671. Rucks *et al.* 13 February 2001.
- U.S. Patent No. 6,325,548. Shirakawa. 04 December 2001.
- U.S. Patent No. 6,450,703. Shirakawa. 17 September 2002.

B. INTERNATIONAL PATENT DOCUMENTS.

- German Patent Publication No. 19742932. The Whitaker Corporation. 02 April 1998 (the English version of this Publication is US5993071, referenced above).
- German Patent Publication No. 19841766. Delphi Automotive Systems Deutschland GmbH. 16 March 2000 (the English version of this Publication is US6186671, referenced above).
- German Patent Publication No. 19934962. Yazaki Corporation. 10 February 2000 (the English version of this Publication is US6325548, referenced above).
- German Patent Publication No. 19963426. Yazaki Corporation. 18 January 2001 (the English version of this Publication is US6450703, referenced above).
- PCT Patent Application No. PCT/US1985/001625 (International Publication No. WO 1986/001610). AMP Incorporated. 13 March 1986.
- PCT Patent Application No. PCT/IB2001/000779 (International Publication No. WO 2001/088583). Tyco Electronics AMP GmbH. 22 November 2001.

C. NON-PATENT DOCUMENTS.

- International Search Report for PCT/EP2005/000590. 11 April 2005.